Complete Summary

TITLE

Surgical care improvement project: percent of surgery patients for whom either active warming was used intraoperatively for the purpose of maintaining normothermia or who had at least one body temperature equal to or greater than 96.8 degrees Fahrenheit/36 degrees Celsius recorded within the 30 minutes immediately prior to or the 15 minutes immediately after *Anesthesia End Time*.

SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0c. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct 1. various p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the Measure Validity page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percent of surgery patients who had either intraoperative warming to maintain normothermia, or who had at least one body temperature equal to or greater thanÂ 96.8 degrees Fahrenheit/36 degrees Celsius recorded within the 30 minutes immediately prior to or the 15 minutes immediately after *Anesthesia End Time*.

RATIONALE

Core temperatures outside the normal range pose a risk in all patients undergoing surgery. According to the Clinical Guidelines for the Prevention of Unplanned Perioperative Hypothermia by the American Society of PeriAnesthesia Nurses

(ASPAN, 2001), published research has correlated impaired wound healing, adverse cardiac events, altered drug metabolism, and coagulopathies with unplanned perioperative hypothermia. A study by Kurtz, et al (1996) found that incidence of culture-positive surgical site infections among those with mild perioperative hypothermia was three times higher than the normothermic perioperative patients.Â In this study, mild perioperative hypothermia was associated with delayed wound closure and prolonged hospitalization. In a meta-analysis of outcomes and costs, Mahoney and Odom (1999) demonstrated that hypothermia is associated with a significant increase in adverse outcomes, including an increased incidence of infections. The authors also concluded that hypothermia is associated with an increased chance of blood products administration, myocardial infarction, and mechanical ventilation. These adverse outcomes resulted in prolonged hospital stays and increased healthcare expenditures.

PRIMARY CLINICAL COMPONENT

Surgical care infection prevention; perioperative hypothermia

DENOMINATOR DESCRIPTION

All patients, regardless of age, undergoing selected surgical procedures under general or neuraxial anesthesia of greater than or equal to 60 minutes duration (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary and Appendix A, Table 5.10 for the list of selected surgeries)

NUMERATOR DESCRIPTION

Surgery patients for whom either active warming was used intraoperatively for the purpose of maintaining normothermia or who had at least one body temperature equal to or greater than 96.8Â° F/36Â° C recorded within the 30 minutes immediately prior to or the 15 minutes immediately after *Anesthesia End Time*

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- A systematic review of the clinical literature
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Use of this measure to improve performance

EVIDENCE SUPPORTING NEED FOR THE MEASURE

American Society of PeriAnesthesia Nurses. Clinical guideline for the prevention of unplanned perioperative hypothermia. Cherry Hill (NJ): American Society of PeriAnesthesia Nurses (ASPAN); 2001. 15 p. [47 references]

Bennett J, Ramachandra V, Webster J, Carli F. Prevention of hypothermia during hip surgery: effect of passive compared with active skin surface warming. Br J Anaesth1994 Aug;73(2):180-3. PubMed

Brauer A, Perl T, Uyanik Z, English MJ, Weyland W, Braun U. Perioperative thermal insulation: minimal clinically important differences. Br J Anaesth2004 Jun;92(6):836-40. PubMed

Carli F, Emery PW, Freemantle CA. Effect of peroperative normothermia on postoperative protein metabolism in elderly patients undergoing hip arthroplasty. Br J Anaesth1989 Sep;63(3):276-82. PubMed

Frank SM, Beattie C, Christopherson R, Norris EJ, Rock P, Parker S, Kimball AW Jr. Epidural versus general anesthesia, ambient operating room temperature, and patient age as predictors of inadvertent hypothermia. Anesthesiology1992 Aug;77(2):252-7. PubMed

Frank SM, Raja SN, Bulcao CF, Goldstein DS. Relative contribution of core and cutaneous temperatures to thermal comfort and autonomic responses in humans. J Appl Physiol1999 May;86(5):1588-93. PubMed

Hooper V. Perioperative thermoregulation: a survey of clinical practices. In: Paper presented at the consensus conference on perioperative thermoregulation, ASPAN; Bethesda (MD).1998.

Kurz A, Sessler DI, Lenhardt R. Perioperative normothermia to reduce the incidence of surgical-wound infection and shorten hospitalization. Study of Wound Infection and Temperature Group. N Engl J Med1996 May 9;334(19):1209-15. PubMed

Mahoney CB, Odom J. Maintaining intraoperative normothermia: a meta-analysis of outcomes with costs. AANA J1999 Apr;67(2):155-63. PubMed

Sessler DI. A proposal for new temperature monitoring and thermal management guidelines. Anesthesiology1998 Nov;89(5):1298-300. PubMed

Sessler DI. Mild perioperative hypothermia. N Engl J Med1997 Jun 12;336(24):1730-7. [60 references] PubMed

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Accreditation
Collaborative inter-organizational quality improvement
External oversight/Medicaid
External oversight/Medicare
Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

All ages

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Unspecified

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

See the "Rationale" field.

UTILIZATION

See the "Rationale" field.

COSTS

See the "Rationale" field.

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Timeliness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

All patients, regardless of age,Â undergoing selected surgical procedures under general or neuraxial anesthesia of greater than or equal to 60 minutes duration

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions
Discharges with an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Principal Procedure Code of selected surgeries as defined in the appendices of the original measure documentation

Exclusions

- Patients who have a Length of Stay (LOS) greater than 120 days
- Patients whose ICD-9-CM principal procedure occurred prior to the date of admission
- Patients whose length of anesthesia was less than 60 minutes
- Patients who did not have general or neuraxial anesthesia
- Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documentation of *Intentional Hypothermia* for the procedure performed

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Institutionalization
Therapeutic Intervention

DENOMINATOR TIME WINDOW

Time window brackets index event

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions
Surgery patients for whom either active warming was used intraoperatively for the purpose of maintaining normothermia or who had at least one body temperature equal to or greater than 96.8Â° F/36Â° C recorded within the 30 minutes immediately prior to or the 15 minutes immediately after *Anesthesia End Time*

Exclusions
None

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

SCIP-Inf-10: surgery patients with perioperative temperature management.

MEASURE COLLECTION

National Hospital Inpatient Quality Measures

MEASURE SET NAME

Surgical Care Improvement Project (SCIP)

SUBMITTER

Centers for Medicare & Medicaid Services
Joint Commission, The

DEVELOPER

Centers for Medicare & Medicaid Services/The Joint Commission

FUNDING SOURCE(S)

All external funding for measure development has been received and used in full compliance with The Joint Commission's Corporate Sponsorship policies, which are available upon written request to The Joint Commission.

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

The Centers for Medicare & Medicaid Services assembled and maintained the Technical Expert Panel for development of the Surgical Infection Prevention Project (SIP) measures in 2002. The SIP set subsequently transitioned to the Surgical Care Improvement Project (SCIP) effective July 1, 2006. The panel has been maintained by the Centers for Medicare & Medicaid Services since the inception of the project.

SCIP Partners include the Steering Committee of 10 national organizations who have pledged their commitment and full support for SCIP:

- Agency for Healthcare Research and Quality
- American College of Surgeons
- American Hospital Association
- American Society of Anesthesiologists
- Association of Perioperative Registered Nurses
- Centers for Disease Control and Prevention
- Centers for Medicare & Medicaid Services
- Institute for Healthcare Improvement
- The Joint Commission
- Veterans Health Administration

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

Expert panel members have made full disclosure of relevant financial and conflict of interest information in accordance with the Conflict of Interest policies, copies of which are available upon written request to The Joint Commission and the Centers for Medicare & Medicaid Services.

ENDORSER

National Quality Forum

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2009 Oct

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0c. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct 1. various p.

MEASURE AVAILABILITY

The individual measure, "SCIP-Inf-10: Surgery Patients with Perioperative Temperature Management," is published in "Specifications Manual for National Hospital Inpatient Quality Measures." This document is available from The Joint Commission Web site. Information is also available from the Centers for Medicare & Medicaid Services (CMS) Web site. Check The Joint Commission Web site and CMS Web site regularly for the most recent version of the specifications manual and for the applicable dates of discharge.

COMPANION DOCUMENTS

The following are available:

- A software application designed for the collection and analysis of quality improvement data, the CMS Abstraction and Reporting Tool (CART), is available from the CMS CART Web site. Supporting documentation is also available. For more information, e-mail CMS PROINQUIRIES at proinquiries@cms.hhs.gov.
- The Joint Commission. A comprehensive review of development and testing for national implementation of hospital core measures. Oakbrook Terrace (IL): The Joint Commission; 40 p. This document is available from The Joint Commission Web site.
- The Joint Commission. Attributes of core performance measures and associated evaluation criteria. Oakbrook Terrace (IL): The Joint Commission; 5 p. This document is available from The Joint Commission Web site.

NQMC STATUS

The Joint Commission submitted this NQMC measure summary to ECRI Institute on July 31, 2009. This NQMC summary was reviewed accordingly by ECRI Institute on December 2, 2009. The information was verified by the Centers for Medicare & Medicaid Services on February 18, 2010.

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